# United States Department of the Interior

## GEOLOGICAL SURVEY

P.O. BOX 1716
CARLSBAD, NEW MEXICO 88220

IN REPLY
REFER TO:

December 14, 1971

MINE INSPECTION REPORT
JACKPILE-PAGUATE OPEN-PIT MINE
UNITED PUEBLO AGENCY
LAGUNA PUEBLO RESERVATION
VALENCIA COUNTY, NEW MEXICO

LAGUNA PUEBLO
TRIBAL LEASES



by
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U. S. DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
BRANCH OF MINING OPERATIONS
CONSERVATION DIVISION

The Anaconda Company's Jackpile-Paguate open-pit uranium mine was inspected on November 18, 1971, in the company of Gerry Dohm Senior Mining Engineer for these operations. The mine presently consists of two adjacent open-pit excavations on the Laguna Indian Reservation located about 8.5 miles north of the Laguna Pueblo. They were last inspected by an engineer from the Carlsbad office on June 7, 1971.

The mine was being operated two 8-hour shifts per day, 6 days a week with a total of 300 employees. Daily production of about 2,000 tons of ore came principally from the Paguate pit with a still small, but increasing quantity from the western extension of the Jackpile pit.

Completed exploration and development drilling on Tract #4 has established the presence of a series of relatively small, south trending ore bodies at variable elevations in the Jackpile sandstone, between the southern end of the Paguate deposit and the southern boundary of the tract. The largest of these is only about 300'x300'x10' thick and some are vertically separated by as much as 50 feet. They are also erratically distributed over a distance of about 2½ miles along the trend at depths of more than 400 feet below the surface. The $U_3O_8$ content of the ore ranges from.30 percent to .40 percent. Extensive drilling on the company's prospecting permit lands south of the Tract #4 boundary indicates that the mineralized trend does not continue into this area.

Since the cost of removing the overburden in open-pit mining of the above deposits would be excessive, the company is finalizing plans to mine them by underground methods. Starting in January 1972, a 500-foot deep, two-compartment service shaft will be sunk at a centralized location about 1,200 feet from the site of a one-compartment production shaft to the same depth which is scheduled for commencement at a later date. The ore will probably be extracted by a modified room and pillar method with trackless haulage and conventional mining equipment. However, if the results of current experimental tests of the Alpine Miner, a crawler-mounted mechanical mining machine, in a drift near the primary crushing plant are favorable, it may also be used for selective mining, drifting, and stoping. The 10'x10' drift is being driven, or cut, with the Miner in a narrow, flat-lying, 10-foot thick lense of mineralized sandstone that outcrops about 100 yards north of the crusher installation. At the time of inspection, the drift face was inby 250 feet from the portal and being advanced at the rate of 12 feet per 8-hour shift. An electrically powered suction fan installed outby the portal was exhausting air at the drift face through 30-inch diameter, metal ventubing at the rate of 34,000 cubic feet per minute. Company monitoring has shown that, at this rate, the radiation exposure level was held to only 0.30 WLM when the Miner was in operation and to zero when it was not. The results of testing for particulate matter in the air were not yet available.

Health and safety conditions at the mine were reported by the U. S. Bureau of Mines on June 17, 1971, to be generally satisfactory.

No violation of the lease terms were observed.

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